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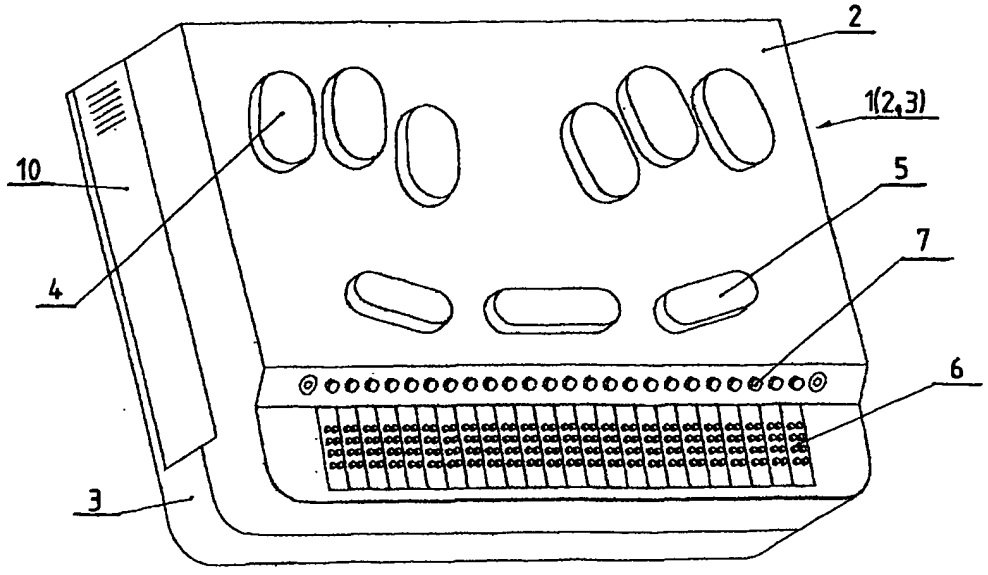
(54) Title: SEPARABLE BRAILLE KEYBOARD FOR POCKET PERSONAL COMPUTER



(57) Abstract: The subject of the invention is an electronic Braille device designed to record and receive information by the blind persons. The electronic Braille device according to the invention is characterized in that it contains a pocket personal computer (11) located in a casing (1) and is connected in a separable way with the control system of the device.

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SEPARABLE BRAILLE KEYBOARD FOR POCKET PERSONAL COMPUTER

The subject of the invention is an electronic Braille device used by blind or short-sighted persons to record and receive information.

The blind use again and again electronic device for recording, collecting and audio screening information. The known electronic Braille devices are provided with Braille keyboards in six or eight point systems. They also have one or several function keys. Their system includes a speech synthesizer which converts text information into speech emitted from the internal loudspeaker or from the connected external earphones. Such electronic devices are flat boxes with Braille and a function keyboard on their upper surface.

The electronic Braille device according to the invention consists of box case, containing central unit and device control system and the case contains Braille and function pushbuttons on its upper part.

The essence of the design according to the invention consists in it that the central unit is a pocket personal computer placed in the casing and it is connected in a separable way with the device control system.

The pocket personal computer is located in the case pocket and is connected through a connector with the board of the device control system.

The pocket personal computer is directed downwards with its front part which contains a loudspeaker located above the openings in the bottom part of the casing.

The pocket entrance is in the side wall of the casing and the pocket is locked with a bolt.

The advantage of the device is its use of the pocket personal computer as a central unit. After taking out the pocket personal computer out of the casing it can be used independently for example by people with good eyesight. Design according to this invention increases the scope of usage of pocket computers.

This design is price wise profitable in comparison with the known Braille notebooks, designed and built basically for one function i.e. recoding and sound screening of information.. The competitiveness of the design according to the invention results among others from mass production and availability of pocket personal computers. The design enables blind persons who use Braille device to make use of quick technical progress within pocket personal computers.

The subject of the invention is demonstrated on example of its execution in the drawing, in which fig. 1 – presents outside view of the device in axonometric projection, fig. 2 – presents the view of the inside of the device in horizontal projection and fig. 3 – presents vertical cross-section with demonstration of inside elements of the device.

The exemplary electronic Braille device has a form of a box casing 1 which includes upper cover 2 and bottom cover 3, and the covers 2 and 3 are connected with each other. The upper cover 2 contains on its upper surface six Braille keys 4 in the six point system, three function keys 5 and a read out Braille line 6 with push buttons of the touch cursor 7. The device can have eight Braille keys. Braille keys 4 and function keys 5 co-operate directly with the board 8 which is under the upper cover and which contains control system of the device, which is moreover connected with a Braille line 6 with the pushbuttons of the touch cursor 7. The casing 1 contains a pocket 9 with the entrance in the side wall and the pocket is locked with a bolt 10. In the pocket 9 there is a central unit in form of a pocket personal computer 11 provided with a speech synthesizer which is connected in a separable way with a connector 12 with a board 8. The pocket personal computer 11 is horizontally located with its front part containing a touch screen 13 and a loudspeaker 14 directed downwards, and the loudspeaker 14 is above the openings 15 of the bottom cover 3 of the casing 1 and the openings 15 are acoustic channels for the sound emitted by the loudspeaker 14. The bottom cover 3 of the casing 1 contains seats 16 for accumulators or batteries to feed the device. The connector 12 is fastened through an intermediate board 17 to the bottom cover 3 of the casing 1.

The keyboards 4 and 5 communicate through the control system with the pocket personal computer 11. The use of keyboards 4 and 5 results in generation of respective signals which are information which after processing is recorded with simultaneous emission through the loudspeaker 14 of the pocket personal computer 11 of the same information in the sound form.

Patent claims

1. The electronic Braille device, consisting of a box casing, containing a central unit provided with a speech synthesizer and control system, of the device and the casing on its upper part contains Braille keys and function keys, **characterized in,** that the central unit is a pocket personal computer **(11)** located in a casing **(1)** and that it is connected with the device control system in a separable way.

2. The electronic device according to claim 1 **characterized in,** that the pocket personal computer **(11)** is located in a pocket **(9)** of the casing **(1)** and is connected with a board **(8)** of the apparatus control system with a connector **(12)** .

3. The electronic device according to claims 1 or 2 **characterized in,** that the pocket personal computer **(11)** is with its front part containing a touch screen **(13)** and a loudspeaker **(14)** directed downwards, and the loudspeaker **(14)** is located above the openings **(15)** in the bottom part of the casing **(1)**.

4. The electronic device according to claim 2 **characteriszed in,** that the pocket **(9)** entrance is in the side wall of the casing **(1)** and the pocket is locked with a bolt **(10)**.

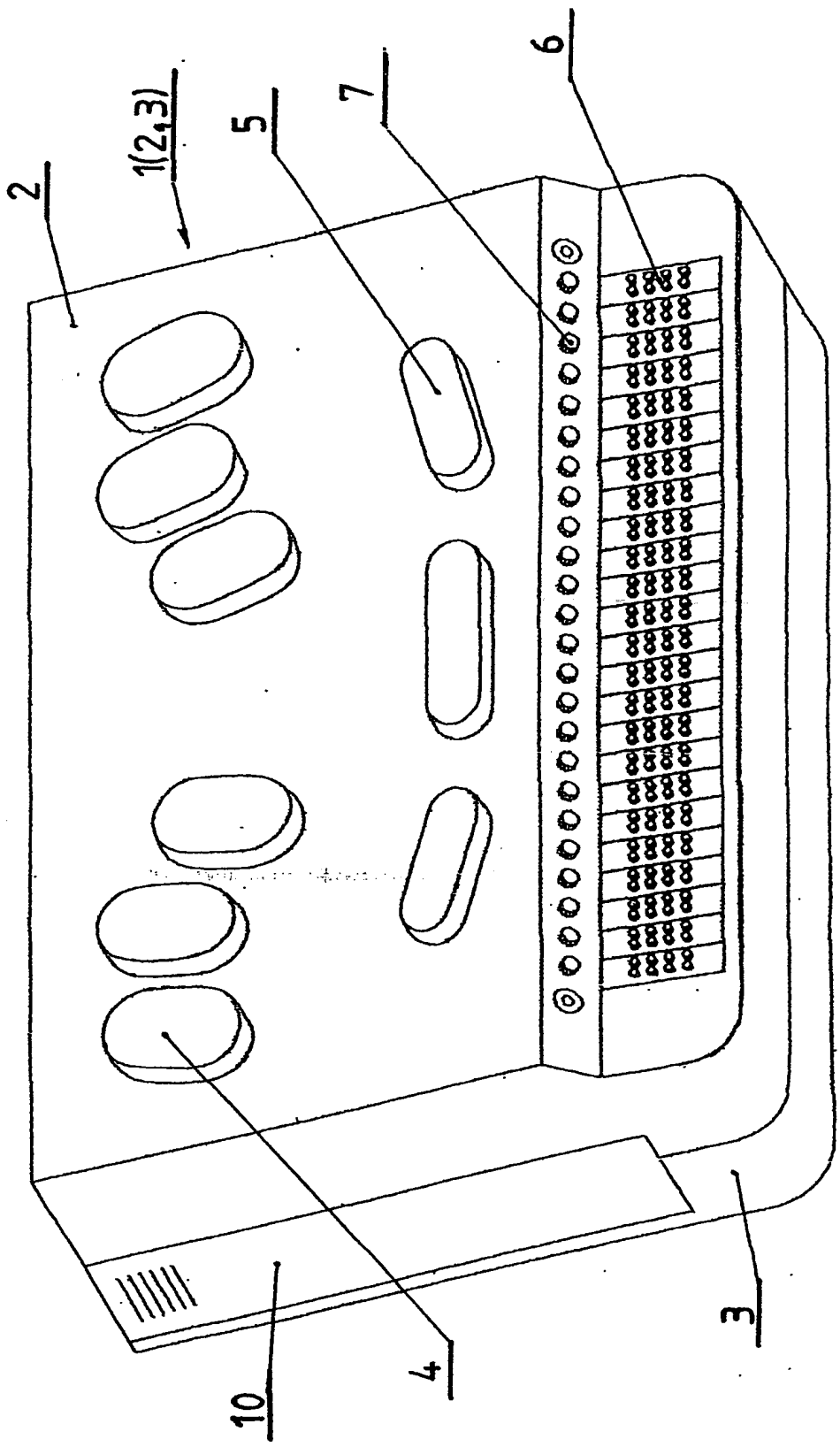

Fig.1

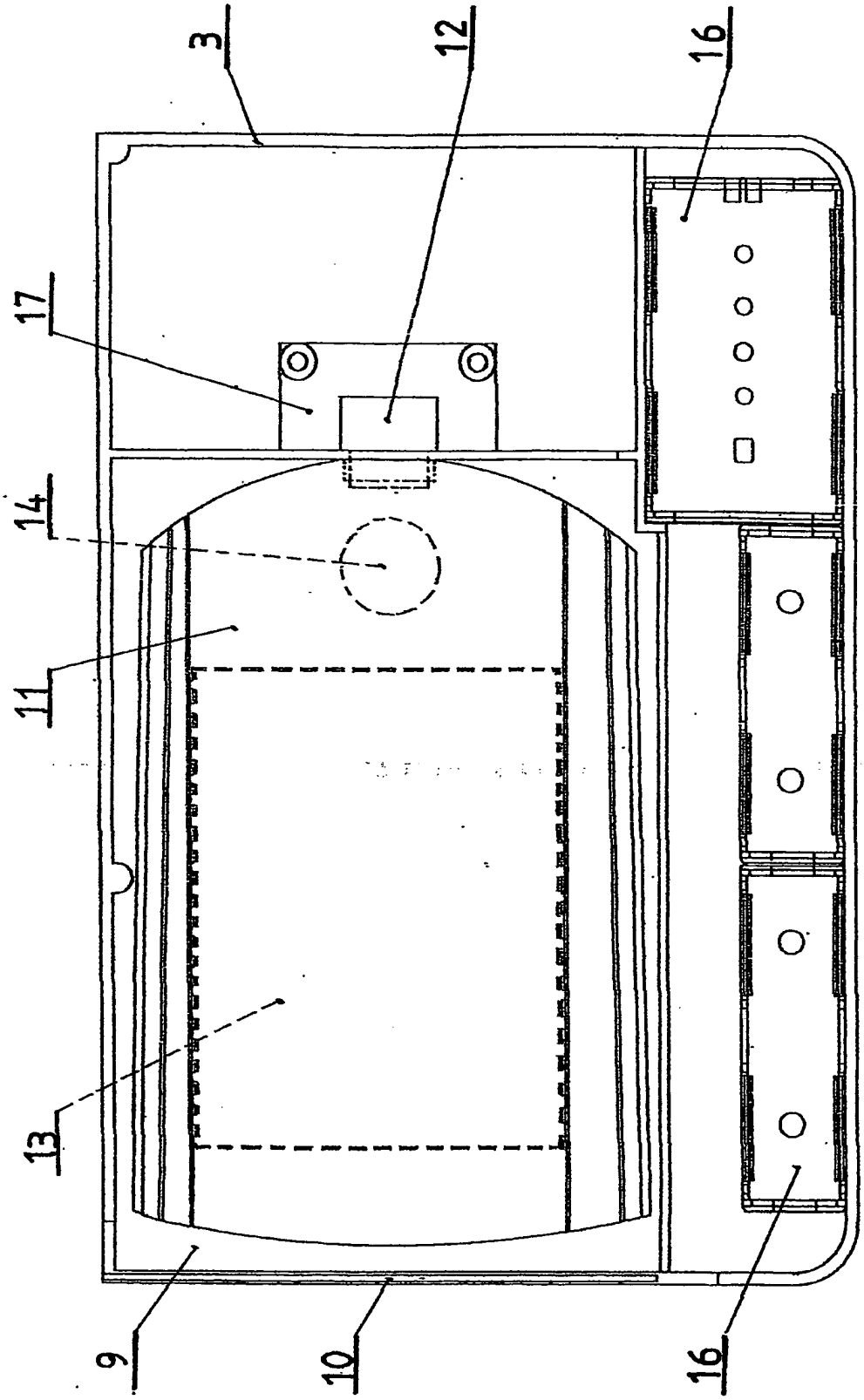

Fig.2

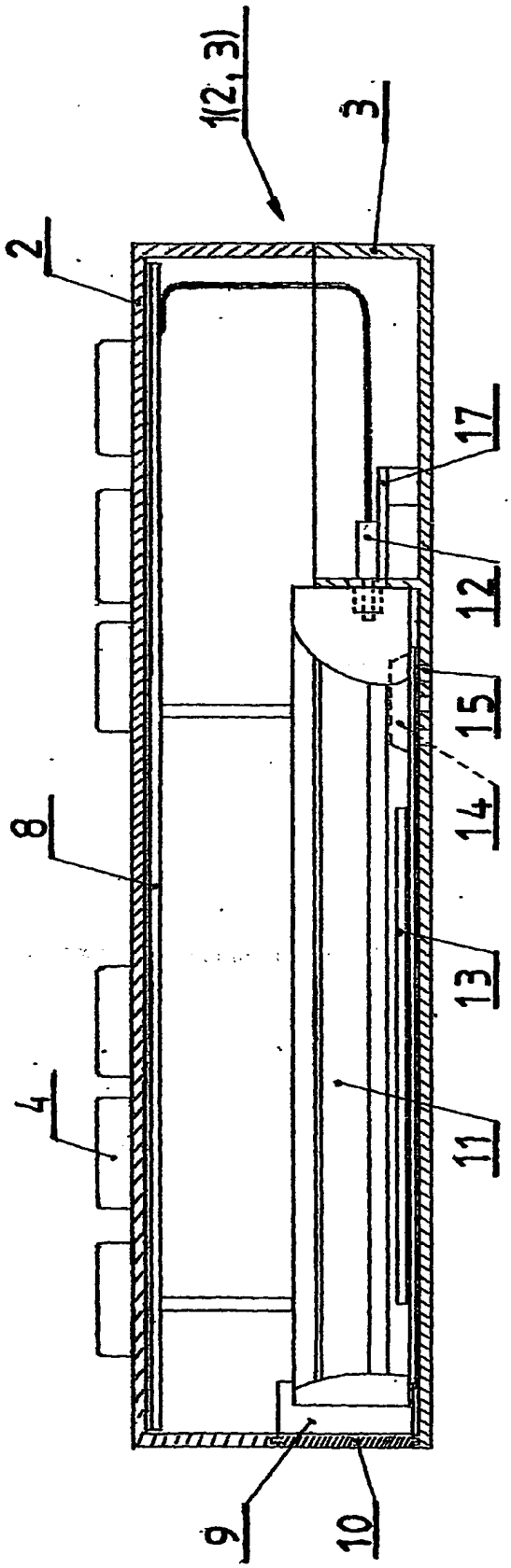

Fig. 3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LAWRENCE RICCI: "Freedom Scientific's PDA for the Blind"'Online! vol. 3, May 2002 (2002-05), pages 46-47, XP002274885 Retrieved from the Internet: URL:www.intel.com/pca/developernetwork> 'retrieved on 2004-03-25! the whole document	1,2
X	"Microsoft und Freedom Scientific bringen PDA für Blinde" 'Online! 25 October 2002 (2002-10-25), GOLEM.DE , XP002274886 Retrieved from the Internet: URL:dyn1.golem.de/cgi-bin/usisapi.dll/forprint?id=22325> 'retrieved on 2004-03-25! the whole document	1,2

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[X] Further documents are listed in the continuation of box C. [ ] Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance
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"&" document member of the same patent family

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25 March 2004	19/04/2004

Name and mailing address of the ISA	Authorized officer
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INTERNATIONAL SEARCH REPORT

International Application No
PCT/PL 03/00127

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	"Braillino" 'Online! October 2003 (2003-10), HANDY TECH ELEKTRONIK GMBH , XP002274887 Retrieved from the Internet: URL:www.handytech.de> 'retrieved on 2004-03-25! the whole document	1-4